CHESAPEAKE BAY REGULATORY AND ACCOUNTABLILITY PROGRAM

October 1, 2012 – December 31, 2017

WORK PLAN OBJECTIVES / PROJECT DESCRIPTIONS

July 22, 2015
September 9, 2015 (Revised)
December 11, 2015 (Revised)

Submitted To
Environmental Protection Agency
Chesapeake Bay Program Office
1650 Arch Street
Philadelphia, PA 19103-2029

Submitted From
Department of Environmental Protection
Bureau of Conservation and Restoration
Division of Conservation
Rachel Carson State Building
P.O. Box 8555
Harrisburg, PA 17105-8555
717-783-7577

Objective #1	*Outreach and Education*	**Budget for this Objective:**	*Total:$622,308* *EPA Share: $622,308* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	This objective will increase the outreach, education and training activities for agricultural operations and stormwater management.		
Description of Objective:	This Objective will support the efforts of Penn State University and the two Agricultural Ombudsmen to provide education, outreach and training for the agricultural community to improve compliance with state regulations. This would include printing/distribution of existing "*Am I in Compliance?*" education/outreach materials and development of new education and outreach materials by the Ag Ombudsman program. This would also include on-going training efforts for manure management conducted by Penn State. With the success of the "*Am I in Compliance?*" efforts, additional copies of these materials are needed. Also, as the compliance effort moves into the next phase, additional information to assist farm operations meet Pennsylvania's regulatory requirements is needed. Penn State training materials and sessions will be based on the success of previous nutrient management efforts and will include manure management training materials and sessions for farmers and consultants, technical assistance in the development of regulatory tools for erosion and sediment control and complimentary efforts to support manure management with the existing nutrient management activities. $185,000 has been earmarked for agricultural activities. All funds for the previous CBRAP ("CBRAP #1") grant for Objective #1 have been expended. Additional copies of all publications and Ag training are from CBRAP #2. No funds in CBRAP #1 were allotted to stormwater training. All upcoming training in 2014 and beyond is from CBRAP #2. Similar efforts will be developed for stormwater management education/outreach, development of a stormwater outreach efforts and technical assistance. These efforts will be designed to assist municipalities and developers to comply with MS4, Erosion and Sediment Control, and Construction General Permit requirements to reduce nutrient and sediment loads delivered to the Bay. This grant will fund materials for stormwater BMPs and the operation and maintenance for homeowners, partnerships with MS4 communities for their obligations regarding education and post construction stormwater management, and funds to support technical assistance through the Villanova Urban Stormwater Partnership. $110,000 has been earmarked for stormwater activities. **2014-15:** Additional $75,575 to support on-going activities of the Ag Ombudsmen offices. Activities will include re-printing of existing materials, development of outreach materials on environmental concerns of winter manure spreading and several workshops/training events.		

	Additional $20,000 for PA DEP's Chesapeake Bay Program Office to work with Commonwealth Media Services (CMS) to develop outreach video on ag compliance "success stories" to highlight the activities of Pennsylvania agriculture operations and promote successful practices. Additional $228,719 to develop training content and conduct trainings focused on TMDL Plans and Chesapeake Bay Pollutant Reduction Plans. DEP anticipates that additional workshops and outreach will be important in 2016 and beyond, considering the new approaches envisioned for the 2018 PAG-13 MS4 General Permit. DEP would like to ensure that MS4 permittees are well prepared for the requirements in the permit applications for the next permit cycle. Many of the MS4 permittees in Pennsylvania are obligated to prepare TMDL and/or Chesapeake Bay Plans. Most of the plans that have been submitted to date have been inadequate. DEP is developing a training program to address the problem. In addition, there needs to be publicly-available samples of good plans that will be available to the regulated community. Those plans will serve a training/outreach role because other municipalities will learn from the process they used. We therefore propose to use some of these funds to help MS4 permittees develop sample plans. 2015-16: No additional funds requested.
Tasks Under this Objective:	1) Re-prints of "*Am I in Compliance?*" materials. 2) Development/distribution of regulatory compliance materials for equine operations, including a DVD, calendars and brochures, as determined necessary by the Pennsylvania Ag Ombudsman program and/or Penn State Extension.(Ag) 3) Regulatory Requirements Training Sessions for farmers on the requirements of Pennsylvania Ag E&S and manure management regulatory requirements. Expectation is that this objective will fund additional training sessions that will result in manure management plan development. These sessions will result in both direct development of manure management and Ag E&S plans and provide training that will allow farmers to develop plans after attending training.(Ag) *4)* Ag E&S and/or Manure Management plan development through conservation districts or other competent staff. 5) Development/distribution of stormwater regulatory compliance materials addressing stormwater BMPs installation, operation and maintenance for homeowners. *6)* PAG-02 regulatory requirements training sessions for construction industry, engineers/consultants, conservation districts and municipalities.(Stormwater)

Specific Outputs for this Objective	Programmatic • 10,000+copies of revised "*Am I in Compliance?*" brochure (Dec. 2014) • 20,000+ copies of Ag E&S "barn sheet" (Dec. 2015) • 20,000+ copies of Manure Management "barn sheet" (Dec. 2015) • Minimum of 20 Manure Management Training sessions hosted by county conservation districts for farmers and ag professionals using the Penn State Manure Management training materials previously developed. (through June 2017) The expectation is that about $20,000 of this grant will support another 200 training sessions. The actual number will fluctuate, depending on how much of the funds are needed to support additional outreach materials – we may not need 10,000 copies of the various materials - availability of other sources of funds to support training and conservation district needs. • Ag E&S Training sessions hosted by county conservation districts for farmers and ag professionals using the Penn State PA One Stop materials previously developed. (through June 2017) • 4-6 training sessions on PAG-02 in winter-spring 2013. • 3,000 copies of stormwater BMP installation, "operation and maintenance for homeowners" booklet. Additional copies may be printed as needed. • 5,000 copies of two separate ag compliance calendars. One for all farms; one for horse operations. (December 2014) • CMS Video – Promoting use of Chesapeake Bay Ag BMPs. (August 2015) Justification: Based on the success of DEP's educational and informational Susquehanna River Study video (https://www.youtube.com/watch?v=oYYS7Ok0eag), and the positive feedback received from various audiences, including the general public, as well as the regulated, scientific and environmental communities, DEP would like to develop a more targeted video for the agriculture community for dissemination to both large and smaller, specific audiences across broad media outlets as well as at focused venues. The video will focus on promoting ag BMPs and reducing nutrients by utilizing existing successful Chesapeake Bay watershed PA ag operations as educational examples of compliance. The overarching theme of the video will be focusing on improving water quality in PA by reducing nutrients and implementing BMPs, and thus improving the quality of the Chesapeake Bay in order to meet the goals of the Chesapeake Bay TMDL. Examples of where the video will be utilized include DEP's YouTube webpage, TV and radio PSAs, and targeted agricultural-focused events such as the PA Farm Show, BMP Breakfasts, Ag Progress Days, farm visits and field days, and agriculture-focused meetings. In these settings, it will be utilized as a training

	and educational tool for farmers and others in the ag community, to help improve understanding of the need for and value of BMPs and compliance. Reductions will be realized when ag operators realize the need and utility of Ag BMPs. • MS4 Training Materials and Outreach Sessions. Workshops planned in 2015 for existing permit compliance and 2016 and 2017 for education on new MS4 permit. The training materials will include publicly-available samples of good plans that will be available to the regulated community. Those plans will serve a training/outreach role because other municipalities will learn from the process they used. Administrative • Semiannual report of accomplishments submitted to EPA. As requested by EPA, DEP will include training materials, lists of attendees and training session evaluation materials, as appropriate, as part of semiannual report of accomplishments. • Evaluations are conducted on many, but not all, training sessions. Information on these sessions will be provided in progress reports.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through enhanced implementation of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 4. Agriculture (pp. 20, 21) Phase 1 WIP: Section 8. Agriculture Page 92 – Continue Existing Regulatory Program Page 98 – Basin–wide Component to Achieve Regulatory Compliance Phase 2 WIP: Section 5. Stormwater (p 29) Phase 1 WIP: Section 9. Urban/Suburban Stormwater Page 136 - Staffing Page 144 – Strategy to Fill Gaps. Compliance Page 146 – Strategy to Fill Gaps. Compliance

Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Phase 1 WIP / Phase 2 – Both Agriculture and Stormwater Sections include outreach, training and technical assistance components. Priority Watershed No specified priority watershed. This Objective addresses basin wide activities.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $185,000 for Agricultural Activities; $110,000 for stormwater. Refer to Budget Detail document for additional information. Of this $295,000 it is estimated that $100,000 will be for training sessions.

FY2014-15: New total is $622,308. This includes the three projects added in FY 2014-15. These are $75,575 for Ag Ombudsman; $23,014 for Commonwealth Media Services video; and $300,000 for MS4 training resources.

None of this is projected to provide per diem to attend these sessions. Specific costs for light refreshments/meals/beverages have not been established. Some of these funds are used for light refreshments/meals/beverages during a training session, with no after session light refreshments/meals/beverages expected to be provided.

Summary of Staff Funded: *None.*

Objective #2	***Enforcement and Compliance Assurance***	**Budget for this Objective**	*Total: $5,968,158* *EPA Share: $1,888,139* *Non-Federal Share: $4,080,019*
Narrative Summary of Outputs for this Objective:	Improved enforcement and compliance assurance through enhanced implementation of Pennsylvania's existing regulatory requirements. This objective will increase staff resources for compliance monitoring, enforcement follow-up, reviews, reporting, inspections, and corrective actions. These current regulatory requirements include the Chapter 102 Erosion & Sediment Control regulations, Chapter 91.36 regulations addressing ag operations, Chapter 92a NPDES for the Concentrated Animal Feeding Operation (CAFO) program, PA's Clean Streams Law, NPDES Stormwater Construction and Pennsylvania's Stormwater Management Act.		
Description of Objective:	This objective will support eight staff positions – created in the CBRAP #1 Grant - to provide regional compliance and inspection actions for Pennsylvania's CAFO, stormwater and agriculture regulatory programs. These positions will support increased field presence for additional inspections of agricultural operations. One of these positions will support development of a compliance strategy; Post-Construction Stormwater Management (PCSM) compliance tools, which will include inspection forms, checklists and other inspection tools; and PCSM inspections. PCSM BMPs are accounted for via the notices of termination that are submitted for stormwater construction permits. Pennsylvania state regulations include requirements for reporting, recordkeeping, licensed professional oversight of critical stages, and final certification by a Pennsylvania licensed professional, as well as identification of long-term operation and maintenance requirements, including who will be responsible prior to terminating the permit. These positions would support increased compliance activities under Chapter 102 Erosion & Sediment Control regulations, Chapter 91.36 relating to manure management, and local stormwater complaints. Note: The CBRAP #1 grant funded these positions through June 2014. (There were no additional funds requested for this objective in the August 2011 grant submission.) This CBRAP #2 grant continues these positions, and the outputs, from July 2014 through June 2017. This grant does not duplicate funds for these positions. This grant extends the funds for these five positions beyond the initial June 30, 2014 end date of these positions. Outputs from these staff were on-target for the agricultural inspections, exceeded expectations for ag compliance activities and underperformed for stormwater inspections. Additional stormwater inspections may be accomplished by DEP and conservation district staff not funded by CBRAP or other federal/Chesapeake Bay funds.		

Tasks Under this Objective:	1. Conduct compliance inspections of ag operations targeted for non-CAFO/non-CAO operations. 2. Conduct compliance follow-up inspection of ag operations 3. Take enforcement actions on ag operations 4. Assist with enforcement actions on ag operations (CD Referrals) as appropriate. 5. Compliance Monitoring Strategy for Non-CAFO and CAFO livestock operations including: a. Develop SOP for non-CAFO inspections – completed December, 2013, revised in January 2015. Next revisions by May 2016. b. Complete non-CAFO agricultural inspection form – completed July 2015. Currently the form is being used by DEP for 6-12 months and will be evaluated and revised as necessary by July 2016. At that time, DEP will evaluate whether or not the form can be utilized by conservation districts. DEP will have something the districts can use prior to them starting additional compliance inspections in 2017. c. Create SOP in order to standardize entry for inspection/compliance/enforcement in eFACTS. (September 2016) d. Establish a Compliance Penalty Matrix. (September 2016) 6. Conduct compliance inspections under Chapter 102 on non-ag operations (DEP and CDs activities). 7. Conduct enforcement actions under Chapter 102 on non-ag operations (DEP actions and CD Referrals) Pennsylvania has regulatory authority beyond NPDES authority for construction ("non-Ag") erosion and sedimentation controls. 8. Conduct permit termination inspections under NPDES Stormwater Construction program (DEP.) 9. Conduct compliance inspections under NPDES Stormwater Construction and MS4 program. (DEP and CDs activities.) 10. Conduct enforcement actions under NPDES Stormwater Construction and MS4 program. (DEP and CDs activities.)
Specific Outputs for this Objective	<u>Programmatic</u> 1. 450 agricultural inspections (annual) 2. 100 stormwater inspections (annual) 3. 200 NPDES Stormwater Construction Permit Termination Inspection (annual) beginning in FY 2015-16 if the 3 inspection positions are filled. 4. 100 compliance actions (annual). Compliance actions include both Ag and stormwater, but at this time, only Ag enforcement activities are tracked for this output. DEP will begin to track and report compliance activities for the stormwater inspections when a sufficient reporting system is developed and supported and the data is populated. DEP will continue to provide progress reports that include tracking of these compliance actions for both ag and stormwater. Enhanced tracking of conservation district stormwater activities will be used and these results will be incorporated into future progress reports as appropriate. Enhanced tracking will include further tracking of stormwater

	inspections when the additional staff (compliance specialists) are brought on and that tracking mechanisms are created to track their work. Administrative A semi-annual report of accomplishments will be submitted to EPA and will include: 1. The status of all positions funded under this objective, including successes and challenges in retaining staff. 2. For agricultural operations, the number of ag inspections conducted, the number of compliance actions taken, and the amount of fines collected. For stormwater construction permit termination inspections, DEP will provide the number of stormwater operations inspected, list appropriate enforcement actions and the amount of penalties assessed in the semi-annual report of accomplishments. DEP will provide to EPA summary information on the number and types of inspections and non-compliance actions and how non-compliance is being resolved when a sufficient reporting system is developed and supported and the data is populated.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expanded implementation and enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 4. Agriculture Phase 1 WIP: Section 8. Agriculture Page 101 – Basin–wide Component to Achieve Regulatory Compliance Phase 2 WIP: Section 5. Stormwater Phase 1 WIP: Section 9. Urban/Suburban Stormwater Page 146 – Strategy to Fill Gaps. Compliance
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Phase 1 WIP – Basin-wide Component to Achieve Agricultural Compliance with State Regulatory Programs (page 101) - Increased enforcement staff presence. Priority Watershed No specified priority watershed. This Objective addresses basin wide activities. Per the WIP, DEP will initiate a targeted watershed approach for agriculture in a pilot watershed in Mifflin County (Soft Run/Kishacoquillas watershed). Based on the outcomes of this pilot, DEP will engage in other watersheds as appropriate.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: Cost estimates of salary, benefits and indirect for five positions for fiscal years ending June 30, 2015, June 30, 2016 and June 30, 2017. Refer to Budget Detail document for additional information.

FY2014-15: The Budget Details document reflects a reduction of salary/benefits/indirects. This reduction reflects costs not incurred due to staff vacancies in FY2013-14.

FY 2014-15: Additional $1,796,019 of non-federal share was added to the grant. This is the state "match" of this grant and represents additional Growing Greener grant funds, particularly those allotted to the Regional Ag Watershed Assessment Program Initiative.

Summary of Staff Funded:

DEP North East Regional Office – Water Quality Specialist
DEP North Central Regional Office – Compliance Specialist
DEP South Central Regional Office – Environmental Program Compliance Specialist
DEP South Central Regional Office – Environmental Trainee
DEP Bureau of Conservation and Restoration – Water Program Specialist

DEP Bureau of Waterways Engineering and Wetlands – Compliance Specialists (3)

Issues/Problems:

Objective #3	*Nutrient Management Compliance Assurance*	**Budget for this Objective**	*Total: $4,840,344* *EPA Share: $615,299* *Non-Federal Share: $4,225,045*
Narrative Summary of Outputs for this Objective:	Improved enforcement and compliance assurance through supplementation and/or enhancement of the existing conservation district Nutrient Management Technician capabilities to implement Pennsylvania's existing regulatory requirements and the Manure Management Manual (MMM). This objective will increase staff resources for compliance monitoring, complaint assessment, non-compliance follow-up, referrals of enforcement cases, reviews, reporting, inspections, and corrective actions. This objective specifically funds conservation staff positions that address manure management activities. This is accomplished through a formal delegation agreement. This delegation agreement begins in July 2012 and runs through 2017. Pennsylvania delegation agreements with conservation districts are five-year agreements and deviation from the five-year time frame is not possible. As noted, DEP will not draw down funds for this objective until the time period of July 2016-June 2017. If DEP were to wait until "later" to request funds to support this delegation agreement, and no funds were available, there would be irreparable damage to the relationship between DEP and the 38 conservation districts that address these important activities. To address EPA's current concerns about ULOs, DEP has used part of the required 206-17 funds to address more current expenditures. This does not eliminate DEP's need for these funds in 2016-17 to meet requirements of on-going delegation agreement with county conservation districts.		
Description of Objective:	This objective will supplement and/or expand 39.25 county conservation district Nutrient Management staff positions to provide education, outreach, and compliance and inspection actions for Pennsylvania's agriculture regulatory programs. These positions will specifically support increased compliance activities under Chapter 91.36 relating to manure management. The conservation district technicians will provide training and education opportunities to regulated farms, provide technical assistance to farmers/consultants in development of manure management plans, and investigate and inspect farms in relationship to complaints, and follow necessary steps to bring non-compliant farmers into compliance including referring non-compliance (relating to Chapter 91) farms to the DEP regional office for action and assisting with enforcement actions on agricultural operations. Working with the State Conservation Commission and county conservation districts, DEP has revised the existing Nutrient Management Delegation Agreement to specifically include Chapter 91.36 activities. Note: The CBRAP #1 grant funds the activities of this Objective through June 2016**. CBRAP #2 grant continues the activities, and the outputs, from July 2016 through June 2017.** This grant does not duplicate funds for these positions.		

	This grant extends the funds for these activities beyond the initial June 30, 2016 end date of CBRAP #1 These positions are funded under a delegation agreement for nutrient management and manure management that was approved by the State Conservation Commission in July 2012. DEP expects that conservation districts will continue to implement delegated and contracted programs per their contracts and delegation agreements. DEP efforts are focused on implementation of the Bay WIP. This objective supports staff that engage the farm community in all aspects of the nutrient and manure management program – outreach, education, planning, technical assistance, compliance and enforcement under the delegation agreement. Objective #1 also addresses aspects of this effort, providing some of the tools these staff use in their work.
Tasks Under this Objective:	1. Conduct outreach initiatives to the agricultural community to instruct farmers and consultants regarding the MMM and Ag E&S requirements including how to develop Manure Management plans. 2. Provide assistance to farmers in developing their Manure Management plans: provide forms, maps, assist in evaluating ACAs/pastures and manure storages. 3. Train farmers and consultants in the area on how to develop Manure Management plans including use of Nutrient Balance Sheets, P- index, planning tools, ACA evaluation, pasture evaluation, etc. and facilitate training of farm consultants/engineers in the implementation of BMPs called for in Manure Management plans. 4. Additional non-CAFO/non-CAO inspections will be added to the Conservation District Nutrient Management and Manure Management Delegation Agreement. PA DEP has submitted an 18-month strategy to EPA which includes a plan for increasing the inspections of agricultural operations to 10% per year. This plan includes additional permanent DEP staff (not funded by CBRAP) to complete inspections and a new delegation agreement with the Conservation Districts to conduct 50 inspections per nutrient management technician and exceeds the 10% year total.
Specific Outputs for this Objective	<u>Programmatic</u> • 60 outreach activities in 2017. • Provide assistance to 300 farmers in 2017. • Train 20 farm consultants in 2017. • 50 compliance actions/referrals in 2017. • Non-CAFO/non-CAO annual inspections: 2016 – 250 2017 – 500 (July 1-December 31) 2018 – 1000. <u>Administrative</u> 1. Semi-annual report of accomplishments submitted to EPA. 2. DEP will include a list of the conservation districts in the Bay watershed that have a current Nutrient Management and Manure Management Delegation Agreement, as part of semiannual report of accomplishments.

	3. DEP will provide EPA with any new delegation agreements developed under this Objective, as part of semiannual report of accomplishments. 4. Per EPA request, DEP will provide additional information on outreach activities conducted by conservation district staff supported under this grant in 2017. DEP will provide information on outreach activities conducted by conservation district staff supported under this grant as part of semiannual report of accomplishments. This reporting will include those agriculture (manure management) activities reported to DEP under the delegation agreement and found on the ***Manure Management Reporting*** form.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through enhanced implementation and enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 4. Agriculture Phase 1 WIP: Section 8. Agriculture Page 100 – Basin–wide Component to Achieve Regulatory Compliance
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Phase 1 WIP – Basin-wide Component to Achieve Agricultural Compliance with State Regulatory Programs (page 100). This is a basin-wide activity on page 100, not associated with the targeted watershed approach referenced. Priority Watershed No specified priority watershed. This Objective addresses basin wide activities.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $632,000 federal funds, with similar state match, are required to support conservation district staff from July 1, 2016 to June 30, 2017. Refer to Budget Detail document for additional information. Funds were shifted from this Objective to support different conservation districts in Objective #10 in July 2014.

Summary of Staff Funded: This Objective will support a portion of staff time for 39.25 staff in 35 conservation districts across the Bay watershed.

Objective #4	***Improved Tracking and Accountability***	**Budget for this Objective:**	*Total:$846,404* *EPA Share: $846,404* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Improved tracking of point and non-point sources of pollution to better report data for the Chesapeake Bay program. This objective will increase Pennsylvania's abilities to adequately report existing non-point source BMPs, improve the data management systems Pennsylvania utilizes to track Bay information, and improve the management of Pennsylvania's geospatial and database information by coordinating the efforts of program staff and information technology staff. For 2015-16, this grant will support the following: 1. Continuation of the CTIC tillage survey, 2. Maintenance of the PA OneStop planning tool, and 3. Support TetraTech's data management efforts on Pennsylvania's behalf. TetraTech will improve Pennsylvania's data input to the Chesapeake Bay Watershed Model and will aide Pennsylvania in developing strategies to reduce nutrient loads. EPA is providing this $75,000 to Pennsylvania as in-kind services (EPA will provide the $75,000 to Tetra Tech directly via an on-going EPA contract). Please note that this is a new in-kind amount. 4. Develop and test a survey of non-cost shared resource improvement practices comparable to those funded by government agencies so that they can be included in modelling of the nutrient and sediment load coming from agricultural sources. Note: The CBRAP #1 grant identified and addressed the critical components of Pennsylvania's efforts to implement the Bay WIP. The basic components of the WIP, and Pennsylvania's identified critical activities, have not changed and remain necessary to achieve the Bay WIP. The Objective itself – "Improved Tracking and Accountability" – is a generic description of activities necessary to implement the WIP. Some of the activities found in this objective are similar, but not duplicative, of activities in the "data" objective in CBRAP #1. Other activities, particularly those related to stormwater, are not found in the "data" objective in CBRAP #1.		
Description of Objective:	This objective will support contractor assistance to aid Pennsylvania in managing water quality information related to Chesapeake Bay nutrient and sediment related problems. This assistance will also support existing staff input and monitor Pennsylvania's Chesapeake Bay reporting and model efforts. This contractor support will manage data needs associated with Phase 1 and Phase 2 WIP implementation. This contractor support will coordinate GIS and database information; act as a liaison between point / non-point source programs and information technology staff for improved BMP tracking and data collection; coordinate Bay-wide data efforts and BMP tracking for model inputs; and improve Pennsylvania's ability to communicate Bay data needs and results to a wide array of stakeholders.		

This Objective will also include support of activities to improve collection of unaccounted for BMP for agriculture and stormwater. This includes collection of data about BMP's that are on the ground, but that are not accounted for in the model. This will support data collection of the unaccounted for BMPs.

This Objective will address development of data management tools for established stormwater and MS4 programs. This will include data collection mechanism for PAG-02 permit information that is now located in the individual conservation districts. Currently, there is a database that tracks BMPs to be installed on sites developed under the NPDES construction stormwater program. EPA has provided contractor assistance to assist in populating this database with stormwater BMP data collected since 2006. This database will be enhanced to meet continuing data management needs, including tracking MS4 BMPs. The Department currently utilizes the Qualified Local Program (QLP) authorized under federal regulation. The current PAG-13 permit authorizes municipalities that are MS4s to rely on PADEP's construction program including PAG-02 general NPDES permit program to satisfy all MS4 permit requirements for MCM #4 and all requirements under MCM #5 except BMPs #4 through #6 regarding operation and maintenance of post-construction stormwater management BMPs and implementation of an MS4 stormwater management ordinance(s), since PADEP is responsible for implementation of the statewide program. In Sections E(9) and E(5) of the PAG-13 NOI, the applicant will indicate whether they are relying on PADEP's program to satisfy MCMs #4 and #5 (except BMPs #4 through #6 under MCM #5) or whether they are operating their own program to meet all applicable requirements for MCMs #4 and #5.

FY 2014-15:

- $164,545 to complete another CTIC survey of tillage practices, including a new evaluation of cover crop based on protocols developed in Delaware.
- $100,000 to provide for the operation and maintenance of the PA OneStop planning tool. (www.paonestop.org)
- $100,000 from Pennsylvania's CBRAP award will be awarded directly by EPA to TetraTech to address WIP data requirements.

FY 2015-16:

- $100,000 to provide for the operation and maintenance of the PA OneStop planning tool. (www.paonestop.org)
- $75,000 from Pennsylvania's CBRAP award will be awarded directly by EPA to TetraTech to address WIP data requirements.
- $32,464 to develop and test a survey that is intended to be a cost effective system to conduct a targeted farm-by-farm inventory of resource improvement practices that are non-cost shared by government agencies, (but are functionally comparable to those funded) and are typically not

	recognized in modeling the nutrient and sediment load coming from agricultural sources. The test survey will be conducted in a County in the Susquehanna River Basin.
Tasks Under this Objective:	1. Coordinate intra-department data management efforts relating to Chesapeake Bay WIP and Program Office. 2. Increase PA's BMP data tracking for non-point source programs. 3. On-going support of PA's Farm Visit tracking efforts. 4. Increase compatibility with Chesapeake Bay Program Office of PA's existing GIS-based BMP data tracking from PA's TMDL and Growing Greener programs. 5. Expand existing GIS-based BMP tracking capabilities to other program areas and to support permitting efforts. 6. Improve outreach / communication related to Bay data requirements and the Bay model to support greater understanding the Bay model. 7. Annual operation and maintenance of the PA OneStop planning tool by Penn State. 8. Survey of the tillage practices, using the previously developed CTIC protocols with updates/enhancements, for all of the counties in Pennsylvania's Chesapeake Bay watershed. (Repeat at two year intervals.) 9. Survey for non-cost shared resource improvement projects. 10. TetraTech activities to improve delivery of BMP data to the Model. Spreadsheet creation to capture agricultural and stormwater BMPs for reporting to the model which are shared with other agencies and are being utilized to submit data for the model. DEP and TetraTech are working on how other ways to improve BMP reporting for the model particularly for other BMPs and/or historical data.
Specific Outputs for this Objective	<u>Programmatic</u> 1. Maintain a state tracking systems compatible with Chesapeake Bay Program system for Growing Greener projects, Non-Point Source projects, Nutrient Management Plan activities, and the Chesapeake Bay Implementation Grant. 2. On-going support of PA's Farm Visit tracking efforts. This data system was designed to collect locational data for farm operations visited. On-going computer technical support is expected to be required. This system does not currently address BMP data, or compliance with state regs. The system was developed to track farm visits and to confirm that a farm was visited. This information is not shared. Conservation districts input into the system and reports are pulled quarterly, in support of payments for CD Bay technicians supported thru CBIG. There are no current plans to expand this tracking system. This grant supports the maintenance of the site visit tracking system. However, this system or something similar may be useful in tracking BMP data. 3. Assist the reporting of BMP data to the Chesapeake Bay Program for annual progress and biennial milestone data input decks and previously un-reported practices. Provide technical support for stakeholder development of local BMP planning and sub-basin hydrology models. 4. Ongoing operation of PA OneStop.

5. Develop data management tool(s) for established stormwater programs to allow for a tracking system that inputs PAG-02 permits, which are processed by the conservation districts into eFACTS. DEP Bureau of Waterways and Wetlands has been in communication with DEP's Bureau of Information Technology regarding the development of this system. This system will be developed on the timeframes to be established by the Bureau of Information Technology. (At this time, that information has not been made available).
6. An annual report from Penn State documenting the development/maintenance of the PA OneStop planning tool. Report will include the training provided and utilization of the system, including the number of operations that have plans prepared using this tool.
7. Report relevant BMP data from Capital RC&D's on various tillage practices to be utilized for reporting to the NEIEN, by established CBP deadlines.
8. Test survey for non-cost shared resource improvement practices. The milestones and targeted completion dates are:
    a. Survey project scope will be finalized (December 2016).
    b. Project letters to farms in the target county (January 2017).
    c. Phone screening of interested producers (February-March 2017).
    d. Technicians who will conduct farm visits will be trained (February-March 2017).
    e. 25-50 farm visits will be completed resulting in the verification and documentation of resource improvement practices and collection of additional farm information for farm characterization to improve screening for future surveys. A list of additional resource improvement practices not currently approved for visual verification will also be compiled during farm visits. (April-May 2017).
    f. Review of collected farm information. Quality control review of 10% of resource improvement practices identified. (April-May 2017).

TetraTech Outputs –

2014-15 Examination/report of BMP data and land use acres; Summary reports of evaluation and strategies to reduce nutrient loadings by March 31, 2015. The report was completed in September 2014.

2015-16 Ongoing assistance for analyses related to the Watershed model which includes developing documents to help respond to external stakeholder questions; conducting CAST runs to help support analysis of policy option; analyze details of model progress runs to help state agency staff understand how programmatic work can be integrated with CBP goals. (September 2016).

<u>Administrative</u>

- Semi-annual report of accomplishments submitted to EPA

Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through improved tracking and accountability for expanded nutrient and sediment reduction efforts within the state.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section5. Stormwater Section 6. Under-reported BMPs Phase 1 WIP: Section 8. Agriculture Page 106-118 – Tracking and Reporting Protocols Section 9. Urban/Suburban Stormwater Page 146 – Strategy to Fill Gaps. Compliance
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Phase 1 WIP – Tracking and Reporting Protocols (page 106-118). Priority Watershed No specified priority watershed. This Objective addresses basin wide activities.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $638,940 is allocated to this Objective.
$74,395 for stormwater tracking; $200,000 for contracts with Penn State to maintain Site Visit data system and additional efforts to support BMP tracking and reporting to support Phase 1 and Phase 2 Implementation.
Refer to Budget Detail document for additional information.

FY 2014-15: An additional $164,545 is allocated for the Capital RC&D's CTIC Transect Survey and $100,000 for on-going operation and maintenance of the PA OneStop mapping and planning tool.

FY2014-15: $100,000 of Pennsylvania's $2,666,819 CBRAP grant is being awarded by EPA to TetraTech to address Pennsylvania WIP data requirements that most logically is referenced in this improved tracking and accountability Objective. This $100,000 was included in the "Total" or "Federal Share" of this Objective, and listed under "Other" in the 424A as an in-kind expense.

Summary of Staff Funded: No staff funded under this Objective.

Objective #5	***Electronic Discharge Monitoring Report (eDMR) System***	**Budget for this Objective:**	*Total:$600,000* *EPA Share: $600,000* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	The Pennsylvania Department of Environmental Protection's (PADEP's) current eDMR system has been in use since 2007 with approximately 2,000 sewage, industrial waste, and stormwater facilities using the system. Use of the eDMR system is required for significant Chesapeake Bay dischargers and voluntary for other NPDES permittees. Unfortunately, the current eDMR system requires constant maintenance and there are fundamental problems cannot be fixed. PADEP sought alternative eDMR systems but concluded that none exist to meet its business needs. PADEP is now in the process of building a new eDMR system that will not only prepare it for the proposed NPDES eReporting Rule, but will also provide the data necessary to better manage the state program, including but not limited to Bay compliance tracking. The additional funding will provide for additional contractor(s) on this project to ensure the goals in the work plan are met. This system is also expected to provide a mechanism for NPDES mining permittees to report electronically.		
Description of Objective:	This objective will support contractor assistance to develop a comprehensive eDMR system to meet PADEP's needs for managing the NPDES and state water quality programs.		
Tasks Under this Objective:	1. Develop technical specifications for new system. (June 2013). Complete. 2. Execute technical specifications through appropriate information technology (IT) approaches. (December 2014) Completed June 2015. 3. Conduct and complete testing of new IT applications. (March 2016) 4. Deploy new IT applications and require use by facilities regulated by the NPDES program. (April 2016) Note: The target completion dates are tentative and subject to review/modification as part of the semi-annual grant monitoring reviews. In addition, the system will be developed in a way that would be amenable to the submission of self-monitoring results for both traditional NPDES and Mining NPDES permittees. The Mining program will be given the opportunity to require use of the system by that segment of the regulated community.		
Specific Outputs for this Objective	<u>Programmatic</u> 1. Monthly collection of "raw" (daily) data from permittees, with automated statistical calculations that comply with PADEP policies for determining DMR reporting results; 2. Monthly collection of non-DMR data, such as influent and process control data, hauled-in wastewater information (e.g., oil and gas wastewater), biosolids and sewage sludge management, SSO discharges, CSO discharges, etc., which are part of "DMR Supplemental Forms" and are not collected and stored electronically at this time but may be necessary to meet eReporting Rule requirements;		

	3. Monthly compliance assessment of DMR data using both PADEP's and EPA's (ICIS') compliance assessment rules, as PADEP's rules are in some cases more stringent than EPA's; 4. Annual collection of program-specific reports for MS4s and possibly others such as CAFOs; 5. Annual validation of Bay nutrient trading information for compliance purposes by verifying registration data for credits against a nutrient trading database; and 6. Monthly collection and uploading of all required EPA data elements into the ICIS system. <u>Administrative</u> • Semi-annual report of accomplishments submitted to EPA
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	<u>EPA Strategic Plan Goal</u> **Goal 2: Protecting America's Waters** <u>EPA Strategic Plan Objective</u> **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 7. Wastewater Facilities Phase 1 WIP: Section 7. Wastewater
Link to Priority Practices and/or Priority Watersheds	No specified priority watershed. This Objective addresses basin wide activities.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $600,000 for this Objective.
Refer to Budget Detail document for additional information.

Summary of Staff Funded: No Staff Funded Under this Objective.

Objective #6	*Nutrient Trading Program Enhancement Continuation*	**Budget for this Objective:**	*Total:$99,500* *EPA Share: $ 99,500* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Assist the Department in the development of the calculation tools needed to define baseline and implement a performance based approach for the calculation and verification of nutrient and sediment credits.		
Description of Objective:	This project involves working with university researcher(s) to evaluate a number of different modeling tools developed by EPA, USDA, Penn State and DEP to provide a credit calculation tool or tools using a performance based approach to potential credit generators. Tools to be considered include the USDA NTT tool, the NutrientNET tool now used by Maryland, the MapSHED model used by DEP to develop TMDL, and variations of the Watershed Model such as CAST and BayFAST. In the evaluation of the various calculation tools, PA will be consistent with EPA National trading policies, guidance and the technical memorandums Region 3 has developed, and the Chesapeake Bay TMDL.		
Tasks Under this Objective:	1. Finalize a scope of work for the project, This task is complete. 2. Evaluate modeling tools developed for evaluation of site-specific conditions, calculation of loading rates and simulation of BMP efficiencies using Chesapeake Bay Program approved data. This task is complete. The Multi-State tool developed by WRI for the Bay Program will be used. 3. Develop final credit calculation methodology tool or tools for use by September 30, 2017.		
Specific Outputs for this Objective	<u>Administrative</u> 1. Semi-annual report of accomplishments submitted to EPA Credit calculation methodology and modeling tool or tools for use in the Nutrient Trading Program as a performance based approach to the definition of baseline and credit generation. 2. Provide a copy of the Scope of Work to EPA – Completed. <u>Programmatic</u> 1. Utilize the existing spreadsheets for the calculation of credits until such time as the performance based tool is finalized and calibrated to Phase 6 of the Watershed Model. Apply an additional 3:1 trading ratio to the number of credits generated once the defined baseline compliance and threshold requirements are met. These certifications will expire September 30, 2017. 2. Upon development and implementation of the performance-based modeling tool, all credit calculations for new agricultural nonpoint source certifications will be calculated using this tool. These certifications will have a five-year term. If the tool is not available for use by September 30, 2017 due to unseen complications, the existing spreadsheets will be used and the additional 3:1 ratio applied until such time the tool is available.		

Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	This project will serve as an implementation tool for the Nutrient Trading Program, Section 9 of Pennsylvania's WIP. To do so, outcomes from work done in Section 3, County Initiatives, will be used to refine the county planning targets to define baseline.
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $99,500 for this Objective. Money will be allocated as a project task to an existing contract with Penn State University.

Refer to Budget Detail document for additional information.

Summary of Staff Funded: No Department staff will be funded from this project.

Objective #7	*Mobile Platform for Water Quality Inspections*	**Budget for this Objective:**	*Total:$200,000* *EPA Share: $200,000* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	PADEP performs approximately 5,000 field inspections of sewage, industrial waste and industrial stormwater facilities each year. PADEP will soon be implementing a municipal stormwater inspection program as well. The inspection reports are typically filed in paper format in regional offices. The program desires the ability to have inspection reports completed in electronic format, with data transfer to PADEP's enterprise data system, and storage of inspection reports in PDF format. The goal of this objective is to improve the management of inspection reports and eventually allow access to the reports by the public and EPA, for improved transparency. Inspectors will be provided laptops (if they do not already have them) with standardized electronic inspection forms, complete the forms in the field, and upload the data upon returning to the office.		
Description of Objective:	This objective will support contractor assistance to begin developing standardized inspection forms and appropriate data transfer protocols to provide batch uploads of detailed inspection reports.		
Tasks Under this Objective:	1. Develop technical specifications for new system. TBD. This objective is currently on hold. 2. Execute technical specifications through appropriate information technology (IT) approaches. TBD 3. Conduct and complete testing of new IT applications. TBD 4. Deploy new IT applications and require use by water quality inspectors. TBD Note: The target completion dates are tentative and subject to review/modification as part of the semi-annual grant monitoring reviews. The amount requested will cover a senior developer for one year, and so upon initiation of the project additional funds will need to be procured.		
Specific Outputs for this Objective	<u>Programmatic</u> 1. Completion of water quality inspections in electronic format - Scheduled completion date TBD, project is currently on hold. 2. Transfer of data on inspection forms to PADEP's enterprise data system for upload to ICIS-NPDES - Scheduled completion date TBD, project is currently on hold. 3. Storage of inspection reports in PDF format in the enterprise database for quick retrieval by staff and eventually the public and EPA - Scheduled completion date TBD, project is currently on hold. <u>Administrative</u> 1. Semi-annual report of accomplishments submitted to EPA 2. Provide EPA with descriptions of the type of technology and IT applications developed, selection process, initial cost of investment and expected cost for operation and maintenance, training materials, and samples of agricultural and stormwater inspections in electronic format, as part of semi-annual report of accomplishments.		

Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 7. Wastewater Facilities Phase 1 WIP: Section 7. Wastewater
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Watershed No specified priority watershed. This Objective addresses basin wide activities.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: $200,000 for this Objective.

Refer to Budget Detail document for additional information.

Summary of Staff Funded: No Staff Funded Under this Objective.

Objective #8	***CAFO Permit Implementation Improvements and Program Assessment***	**Budget for this Objective**	*Total:$487,846* *EPA Share: $487,846* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Improve/expand regulation of sources of nitrogen, phosphorus and sediment delivered to the Bay through focused implementation of Pennsylvania's existing CAFO permitting regulatory requirements. This objective will increase staff DEP regional staff resources to consolidate all CAFO permit issuance and renewal for the Chesapeake Bay watershed into a single regional office. This will ensure consistent implementation of CAFO permit requirements across the watershed. This objective will increase DEP's capability to address EPA's information requests associated with the EPA/CBF settlement CAFO assessment. DEP will utilize these CBRAP funds to support additional staff resources to support EPA's evaluation of Pennsylvania's animal agriculture programs.		
Description of Objective:	This objective will support one staff position to provide regional CAFO permit issuance and renewal actions. This position will allow DEP to consolidate all CAFO permitting activities within the Chesapeake Bay watershed within a single regional office. This should increase the consistency of permits issued in the Chesapeake Bay watershed of Pennsylvania, allow for development of additional expertise on CAFO operations, provide a single point of contact for EPA Region 3comments/questions on CAFO permits, and provide a single point of contact for the regulated community for CAFO permits. The bulk of Pennsylvania's 373 CAFO permitted facilities are located in the Chesapeake Bay watershed. DEP's South-central Regional Office (SCRO) addresses 281 CAFO permits, the North-central Regional Office (NCRO) has 60 permits, the Northeast Regional Office (NERO) has 13 CAFO permits and the remaining 19 are in the other DEP regions. By adding one staff position, DEP will be able to consolidate all CAFO permit actions within one regional office. This will lead to greater consistency of CAFO permits, fewer "problems" and faster permit processing due to familiarity of the process, and will "free up" staff in the NERO and NCRO to address other NPDES permits. This objective will support additional staff resources to address the program assessment of Pennsylvania's animal agriculture programs and EPA's information requests associated with the May 2013 EPA/CBF CAFO settlement. In June 2013, EPA Region 3 requested DEP assistance in addressing and facilitating the completion of a survey of Pennsylvania's animal agriculture requirements. DEP committed to assist EPA with this survey prior to receiving the 102-page survey. DEP does not have adequate resources to address this initial 102-page survey; DEP does not have adequate resources to address any additional requests that can be expected to result from this EPA assessment of Pennsylvania's animal agriculture program. This objective will address the DEP responses to the 102-page survey,		

	coordinate PA-State agency responses to this survey, coordinate other PA responses to this survey and coordinate and facilitate follow-up to this survey.
Tasks Under this Objective:	1. Single point of contact for all PA CAFO permit reviews 2. Review/Processes of all PA CAFO permits by DEP SCRO regional office 3. Ensure consistency of all PA CAFO permits 4. Timely response to EPA comments on renewal/issuance of CAFO permits 5. Provide consistent response to EPA comments on renewal/issuance of CAFO permits 6. Coordinate Pennsylvania DEP response to EPA CAFO program review that is the result of the EPA/CBF May 2013 settlement; (This task is complete.) 7. Collect data on PA animal agriculture program for the survey EPA developed in response to the EPA/CBF May 2013 settlement; (This task is complete.) 8. Develop data on PA animal agriculture program that does not currently exist for the survey EPA developed in response to the EPA/CBF May 2013 settlement; (This task is complete.) 9. Assist with non-DEP state agency response to the survey EPA developed in response to the EPA/CBF May 2013 settlement. (This task is complete.) 10. Update CAFO Inspection SOP. (This task is complete.)
Specific Outputs for this Objective	Programmatic 1. Estimated 80 CAFO Permits processed (per year) beginning in January 2014 2. Facilitate EPA's assessment of PA's Animal Agriculture program. (June 2014) Administrative 3. Semi-annual report of accomplishments submitted to EPA; • This semi-annual report will include the number of permits reviewed and issued by CBRAP-supported staff; • This semi-annual report will be provided to EPA staff persons Joel Blanco-Gonzales and Kyle Zieba. • This semi-annual report will provide the status of filling additional staff positions and describe the progress made toward completing and/or addressing recommendations from the Agriculture Program Assessment.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expanded implementation and enforcement of regulatory programs
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems

Link to Jurisdiction's WIP Commitment(s)	**CAFO Permit Position** Phase 2 WIP: Section 4. Agriculture Phase 1 WIP: Section 8. Agriculture Page 101 – Basin–wide Component to Achieve Regulatory Compliance
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Phase 1 WIP – Basin-wide Component to Achieve Agricultural Compliance with State Regulatory Programs (page 101) - Increased enforcement staff presence. Priority Watershed No specified priority watershed. This Objective addresses basin wide activities. Per the WIP, DEP will initiate a targeted watershed approach for agriculture in a pilot watershed in Mifflin County (Soft Run/Kishacoquillas watershed). Based on the outcomes of this pilot, DEP will engage in other watersheds as appropriate.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: Cost estimates of salary, benefits and indirect for one position through September 30, 2017. (Cost estimated at $359,791 through September 30, 2017)

Cost estimates for two DEP annuitants for through September 30, 2015 ($128,055 through September 2015. Please note that a Commonwealth annuitant cannot work for more than 95 days in any given calendar year.)

Summary of Staff Funded:
DEP South Central Regional Office – Environmental Engineer Specialist
DEP Bureau of Conservation and Restoration – Water Program Specialist (Annuitant)
DEP Bureau of Conservation and Restoration – Environmental Engineering Specialist (Annuitant)

Objective #9	**Model Linkage to Support Multi-Purpose, Stormwater-Related Objectives in Urban Areas**	**Budget for this Objective:**	*Total: $90,000* *EPA Share: $90,000* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Provide ability to quantify load reductions gained from post construction permitting requirements. This project is to incorporate the event-based load reduction calculations used in our NPDES Construction Permitting (Chapter 102) process into daily/annual loads from the continuous simulation model used for TMDLs and MS4 planning. This is a planning tool for municipalities to test scenarios of BMP implementation toward MS4 load reduction requirements. No training funds are requested.		
Description of Objective:	This project will incorporate Chapter 102 construction permitting requirements and calculations into TMDLs models to account for field scale load reductions achieved by those regulatory controls.		
Tasks Under this Objective:	1. Work to correct current spreadsheet calculations to ensure consistency with 102 worksheets 2. Provide spreadsheet functionality for calculating construction > post-construction loadings 3. Expand urban BMP suite available in MapShed to be consistent with revisions to Urban BMP Manual		
Specific Outputs for this Objective	New MapShed model with functional means of: • Inputting site specific permitted construction project information • Calculating load reductions associated with post-construction permitting requirements of PA Chapter 102 requirements • Providing expanded urban BMP tool to account for the more commonly implemented BMPs. Milestones: • Fix cell errors in Chesapeake Stormwater Network (CSN) Tool – This work is complete. • Recode MapShed to read input from CSN tool and recalculate daily loads based on rain events other than the 2-year, 24-hour design storm – This work is complete. • Link model loading estimates to BMP-based reductions for new loading estimates – This work is complete. All of the work for this objective has been completed, and there are no additional steps to be completed.		
Outcomes for this Objective:	Chesapeake 2000 Commitment: 3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal		

	portions of its tributaries from the list of impaired waters under the Clean Water Act.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal2: Protecting America's Waters EPA Strategic Plan Objective 2.2 Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s)	Phase 1 WIP: Section 9 - Urban/Stormwater; Phase 1 WIP: Section 5 – Nutrient and Sediment Load Targets. Phase 2 WIP: Section 5 – Stormwater.
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed.
Progress for this Objective	***This section will be left blank in the work plan but will be completed for the progress reports.*** **Please indicate the percentage of the objective completion in this section.**

Budget Detail: $90,000 for contractor support.

Summary of Staff Funded: No staff funded under this Objective.

Objective 10	**Technical Assistance Program**	**Budget for this Objective:**	Total: $6,570,887 EPA Share: $4,032,287 Non Federal Share: $2,538,600
Narrative Summary of Outputs for this Objective:	Provide technical and compliance assistance to farmers and other landowners to adopt / install BMPs to achieve measurable reductions in reduce nutrients and sediments.		
Description of Objective:	38 conservation districts will employ 45.25 Bay Technicians to provide assistance to landowners and other agricultural landowners for development of nutrient management plans, conservation/Ag E&S plans and BMPs, focusing on those BMPs identified as a priority by DEP and/or the County Implementation Plans. Bay Technicians provide the "leg work" for the BMP cost-share program by: • working with farmers and landowners to provide assistance, share information and plan projects. • engaging in the tracking and reporting of both cost-shared and non-cost shared BMPs. • communicating Pennsylvania's ag regulatory requirements directly to Pennsylvania's farm community via the site visit program. In addition, this grant supports conservation districts' employment of five (5) engineering specialists and two (2) engineering specialist assistants. This staff provides technical expertise to conservation districts for the design of manure storage facilities and other conservation structures, focusing on those BMPs identified as priority BMPS and/or found in the County Implementation Plans. District technician and engineering technicians work with NRCS to prepare designs and manage their engineering workload.		
Tasks Under this Objective:	1. Develop and maintain County Implementation Plans. 2. Develop nutrient management, Ag E&S and other conservation plans. 3. Conduct "farm visits" to ensure ag community is aware of the regulatory requirements. 4. Assist with the planning, design, procurement, installation, and maintenance of BMPs. 5. Report cost-shared and non-cost shared BMPs to DEP. 6. For quality control purposes, technicians will conduct annual reviews of agreements for program participants to establish that scheduled BMPs are installed on time, that the nutrient management plan is current and being followed, and that previously installed BMPs are being maintained. 7. Design, survey, computation, material testing and implementation of agriculture waste systems and other BMPs. 8. Technical assistance on erosion and sedimentation control plans and problems. 9. Provide construction quality assurance checks and documentation on BMPs. 10. Implement electronic self-reporting of manure management plans and BMPs. 11. Inspect and verify self-reported BMPs.		

Specific Outputs for this Objective	Programmatic • Develop 100 Nutrient Management Plans per year • Develop 350 manure management plans per year. • Provide technical assistance to landowners for 200 BMPs on agricultural land by December 30, 2017. • 38 County Implementation Plans prepared/revised by December 30, 2017. • Design 150 BMPs on agricultural land by December 30, 2017. • Develop 1000 Ag E&S/conservation plans by December 30, 2017. • A minimum of 10% of self-reported BMPs will be inspected for verification purposes by December 30, 2017. • PACD and/or Penn State will set up electronic self-reporting system for Manure Management Plans and BMPs by January 2015. Administrative • Semi-annual report of accomplishments submitted by April 1 and October 1 annually.
Outcomes for this Objective:	Chesapeake 2000 Commitment: • Support of BMP implementation within Susquehanna and Potomac watersheds. • Installation of agricultural BMPs. • Improve water quality in the tributaries of the Chesapeake Bay.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s)	Phase 1 WIP: Section 8 - Agriculture; Phase 2 WIP: Section 4 – Agriculture.
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress report.*

Budget Detail: *Provide a breakdown of all objectives/projects and costs by budget category. This breakdown should include the calculation for the Administrative Cap.*

Summary of Staff Funded: *Provide a list of all staff funded either with federal or matching funds that support the objectives/projects listed in the Work Plan.*

This Objective will support a portion of staff time for 50.5 staff in 37 conservation districts across the Bay watershed. See Attached SPREADSHEET OF CD STAFF

Objective #11	***Electronic Reporting Application for Annual Reports***	**Budget for this Objective:**	*Total: $250,000* *Federal Share: $250,000* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	PADEP desires the development of a web-based application to allow MS4s, CAFOs and other permittees to submit annual reports electronically. The development of this application would be completed in phases. The ultimate goal of such a system is data collection to satisfy NPDES Electronic Reporting Rule requirements and the Chesapeake Bay Model.		
Description of Objective:	PADEP proposes to work with Penn State University to develop this application. Once this specific work under the existing contract is approved, PADEP anticipates that the first year will focus on the development of a platform that may be used for any type of annual report (Phase 1), followed by the development of an MS4 annual reporting module (Phase 2). Phase 3 will be data integration with PADEP's enterprise data systems and ICIS (contingent on the availability of ICIS schema). Phase 4 is anticipated to include the development of an electronic annual reporting module for CAFOs. Each phase of the project will require a separate scope of work not to exceed $100,000. Upon completion of the project it is anticipated that PADEP will be able to transmit BMPs to the Chesapeake Bay Model that are currently unreported and update ICIS with details on the applicable annual reports, by established CBP deadlines. In addition, PADEP commits to the following: 1. Conform to the data entry requirements, as specified under the 1985 Permit Compliance System (PCS) Policy Statement (Water Enforcement National Database or WENDB) and its subsequent amendments, to the maximum extent applicable and practicable. 2. Report all Total Annual and Net Annual nutrient loads for significant Chesapeake Bay dischargers, which will allow for determinations of the number of offsets applied and credits purchased to achieve compliance with "cap loads." 3. Ensure that all data is routinely entered into ICIS and is appropriately quality assured, in accordance with the FY14 Chesapeake Bay grant guidance. The data required to be reported to CBPO is listed in the grant guidance and includes BOD, DO, TSS and flow. Required nitrogen parameters are TN or, alternatively, NH3, TKN and (NO2+NO3). Required phosphorous parameters are TP and PO4, if PO4 is required by the NPDES permit. This data entry and quality assurance process will commence on a date mutually agreed to by CBPO and DEP.		

Tasks Under this Objective:	1. PADEP BPNPSM will develop business requirements for the proposed application (This task is complete). 2. Penn State will provide a scope of work with cost estimates to implement Phase 1 (This task is complete). 3. PADEP and Penn State will finalize the scope of work, obtain approvals to commence work under the existing agreement with Penn State and begin work. (This task was completed in March 2015). 4. Phase 1 reporting platform completion. This phase is currently about 60% complete (December 31, 2015). 5. Based on the results of Phase 1, PADEP will develop and finalize a scope of work for Phase 2. (March 31, 2016) 6. Phase 2 MS4 annual report completion (December 31, 2016). 7. Phase 3 MS4 annual report data integration to ICIS (no later than June 30, 2017 or when ICIS schema for this data flow are available). 8. Based on results of Phase 3, PADEP and Penn State will determine next steps for completion of additional phases of the project.
Specific Outputs for this Objective	1. PADEP will provide its business requirements for the proposed application to EPA. This is complete. 2. PADEP will provide a copy of the scope of work for each Phase to EPA. This is complete. 3. PADEP will provide updates on the project status with each semi-annual grant status report. This will be completed every six months with the semi-annual report submittal, with the next one to be submitted in October 2015.  Phase 1 Statement of Work (10-1-14).do
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	This project will satisfy elements of Sections 4 and 5 of Pennsylvania's Phase 2 Watershed Implementation Plan (WIP) to provide accurate reporting of agricultural and stormwater BMPs.
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed.

Progress for this Objective	***This section will be left blank in the work plan but will be completed for the progress reports.*** **Please indicate the percentage of the objective completion in this section.**

Budget Detail: Up to $250,000 from CBRAP. Please note that an additional $156,000 from the EPA Section 106 Water Pollution Control Grant will be allotted to this project, as required. DEP Bureau of Point and Non-Point Source Management will solicit additional funds from the state Clean Water Fund to fund this project, as needed.

Summary of Staff Funded: No Department staff will be funded from this project.

Objective #12	***Commercial Poultry Production Data Collection***	**Budget for this Objective:**	*Total: $376,470* *Federal Share: $376,470* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Support a census of broiler, layer, and turkey integrators in Chesapeake Bay Watershed States to collect data, such as ***Number of birds harvested***, ***Average time in house (days)***, and ***Average bird weight produced (lbs/bird harvested)*** for broilers, layers, and turkeys in each county of States in the Chesapeake Bay Watershed to help in quantify the bird populations and amount of manure generated. The Chesapeake Bay Watershed States are defined as Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia. The District of Columbia is not included because they do not have any poultry production.		
Description of Objective:	The limitation of data for poultry production is not a state or regional issue, but is nationwide. The implementation of new collaborative data-sharing arrangements or agreements between the industry and public agencies in the Chesapeake Bay watershed could potentially lead to changes on the national scale. Identifying inexpensive avenues to share key data annually that can meet future data validation standards, while providing protection from external FOIA and the disclosure of sensitive private or business data, will be critical elements for successfully moving forward with a new approach. Addressing the limitation of data for poultry production is complex. There are multiple data collection opportunities that are not being currently implemented. These range from non-existent or inconsistent litter sampling procedures between the jurisdictions, incomplete and inconsistent litter sample submission forms for public and private laboratories, to the lack of a requirement for obtaining and submitting litter laboratory analysis reports by CAFO permit programs. This Objective proposes actions to move forward in filling these data gaps. Working with NASS, Penn State will utilize funds from this objective to address poultry litter data collection needs for the Chesapeake Bay watershed. Penn State may also address Pennsylvania-specific poultry litter data collection needs, but not with the funds currently allocated.		
Tasks Under this Objective:	1) Meet with each Integrator with broilers, turkeys, or layers in the Chesapeake Bay Watershed States during February or March 2015. The purpose of the meeting will be to obtain written support of the project & authorization to publish county totals/averages as well as get preview of file that will be submitted to NASS for the pilot. 2) Send 1 pre-survey mailing to each Integrator with broilers, turkeys, or layers in the Chesapeake Bay Watershed States to request the datafile from integrators in ~~September, 2015~~, if approval from OMB is received by that time. 3) Receive data from each Integrator. 4) Provide summarized results from the pilot data by ~~April 1, 2016.~~ 5) Prepare analysis of pilot data to accurately characterize poultry populations and manure volume in the Chesapeake Bay watershed. 6) Evaluate the pilot and to decide how to move forward to production for ~~2016/2017~~.		

Specific Outputs for this Objective	Provide summarized results from the pilot for broilers, layers, and turkeys in each county of the Chesapeake Bay Watershed States for Number of birds harvested; Average time in house (days), and Average bird weight produced (lbs/bird harvested). Task will include: • Meeting with each integrator by ~~March 2015~~ TBD; • Pre-survey mailing to each integrator by ~~September 2015~~ TBD; • Provide summarized data to Penn State by ~~April 2016~~ TBD. Please note: USEPA & NASS are currently in negotiations to determine outputs for this objective. Additional direction from EPA is required to address this Objective.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 6. Under-reported BMPs (See "Other Approaches" on Page 50)
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed.
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail:
Summary of Staff Funded: No Department staff will be funded from this project.

Objective #13	Remote Sensing Pilot	Budget for this Objective:	*Total: $431,500* *Federal Share: $431,500* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	To improve the collection of agricultural Best Management Practice (BMP) data in the Pennsylvania portion of the Chesapeake Bay Watershed by conducting a remote sensing pilot project employing analysis of aerial imagery to count and collect BMP data. The confidentiality of individual farm information will be maintained by only providing aggregate data to DEP.		
Description of Objective:	NRCS will train and employ skilled photo interpreters to analyze aerial images for the purpose of recording BMP data that will be reported to the Chesapeake Bay Program (CBP) Watershed Model This project will focus on the collection and aggregation of BMP data in the Potomac Basin in Pennsylvania. NRCS will train and employ skilled photo interpreters to analyze aerial images for the purpose of recording BMP data that will be reported to the Chesapeake Bay Program (CBP) Watershed Model. The anticipated types of practices will be counted and reported as BMPs recognized by the Watershed Model include: Animal Waste Management Systems; Barnyard Runoff Controls; Cropland Practices; Pasture Practices; Forest Practices; and Cover Crops. Data will be ground-truthed for quality assurance purposes and the data will be organized into units reportable to the Chesapeake Bay Watershed Model. Data will be aggregated and at the HUC 14 watershed level. To protect landowner privacy, NRCS will house aerial images and will not provide them to DEP. NRCS will also not provide any farm-specific data to the DEP. NRCS will provide aggregated BMP data at the HUC 14 watershed level to DEP. DEP will report this data to the Chesapeake Bay Program Watershed Model.		

Tasks Under this Objective:	• Analyze aerial images for the purpose of recording BMP data that can be reported to the Chesapeake Bay Program Watershed Model. • Ground-truth, for quality assurance purposes, five (5) percent of the BMP data obtained from aerial images. • Develop aggregated BMP data at the HUC 14 watershed level. • Report of results of pilot.
Specific Outputs for this Objective	1. Develop aggregated BMP data at the HUC 14 watershed level. 2. Report of results of pilot. 3. Include a "Lessons Learned" summary that will allow Pennsylvania to work with the CBP partners to determine the effectiveness of this approach to verifying BMPs and helping to address historical BMP data issues. 4. Anticipated date of completion for the pilot: December 2015.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 2 WIP: Section 6. Under-reported BMPs
Link to Priority Practices and/or Priority Watersheds	This objective addresses basin wide objectives. There is no specific priority practice or priority watershed
Progress for this Objective	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail:

Funding would be used to cover the costs of NRCS' work. Costs include: Training of employees; travel for on-the-ground verification of a sample of practices; computer and support equipment; NRCS employee staff time for performing the work of digitizing aerials, analyzing the aerials, preparing summary of BMPs at HUC-14 level for PADEP, and producing summary reports.

Summary of Staff Funded: No Department staff will be funded from this project.

Objective #14	**PCB Monitoring on the Lower Susquehanna River**	**Budget for this Objective:**	*Total: $163,311* *Federal Share: $163,311* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	Funds will support PCB monitoring effort in Pennsylvania's portion of the Lower Susquehanna River and its tributaries. This includes development of a monitoring strategy designed to provide insight into sources, execution of the monitoring effort and lab costs.		
Description of Objective:	Pennsylvania has listed the lower Susquehanna River as impaired for PCBs. Historic and recent monitoring efforts provide some insight into the sources; however, additional monitoring is necessary to support targeted remediation efforts. Pennsylvania will work with Maryland to develop a Lower Susquehanna monitoring strategy that maximizes resources by building on prior studies and applying the findings of those studies. Please note: PA is unable to contract with the Maryland Department of Environment Labs to address this monitoring. Future action on this objective is questionable.		
Tasks Under this Objective:	Pennsylvania DEP and Maryland Department of Environment (MDE) will coordinate to develop a monitoring strategy for PCBs in the Lower Susquehanna River basin. The strategy will be consistent with Pennsylvania's prior efforts and support the effort to identify the tributary sources of PCBs in the Lower Susquehanna. Sampling will occur in accordance with the monitoring strategy and results analyzed to determine the proper approach for remediation.		
Specific Outputs for this Objective	DEP will work to develop and execute a Lower Susquehanna PCB Monitoring Strategy that will produce a means for identifying the PCB contributions of the major tributaries to the Susquehanna River and the Conowingo Pool. The strategy will apply knowledge gained from previous sampling efforts, both sampling location and methods, and serve to guide further water quality analyses and remediation efforts. DEP is currently working with MDE to finalize a draft monitoring strategy for the Pennsylvania portion of the Conowingo Pool drainage area. Sites have been chosen and the breakdown between water column, sediment and fish tissue samples will complete the plan. Sampling is scheduled to begin in November 2014 (or as soon as funds become available and a contract with UMCES/CBL is in place) and these funds will support all efforts including field collection and laboratory analysis. Subsequent updates to EPA will include number of sites monitored along with a complete accounting of progress.		
Outcomes for this Objective:	Lower Susquehanna PCB Monitoring Strategy and PCB/TOC/TSS data in accordance with the agreed upon strategy (see Table below).		

Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters** EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase 1 WIP: Section 9 - Urban/Suburban Stormwater (pg.122) This Objective relates directly to the "Toxic Contaminants" goal and "Toxic Contaminants Research Outcome" in new Bay Agreement.
Link to Priority Practices and/or Priority Watersheds	No specified priority watershed. This Objective addresses Susquehanna Basin-wide concerns.
Progress for this Objective	This section will be left blank in the work plan but will be completed for the progress reports.

Budget Detail: The sampling will be a collective effort between PA DEP and MDE. The funds will go entirely to support the laboratory analysis costs. The laboratory services will be provided by University of Maryland Center for Environmental Services (UMCES) Chesapeake Biological Laboratory (CBL). The tentative budget breakdown is shown below.

Sample Type	**Sample (#)**	**Analytical Cost**				**Total Cost**
		PCB	**TOC**	**TSS**	**Age Dating**	
Sediment (Bulk)	24	$12,000	$385	-	-	$12,385
Sediment (Porewater)	24	$24,000	$385	-	-	$24,385
Water Column (Surface water)	60	$43,800	$963	$735	-	$45,498
Water Column (Bottom Water)	24	$17,520	$385	$294	-	$18,199
Sediment Core	1	$7,300	-	-	$1,390	$8,690
					Total Budget	**$109,157**

Additional Costs:

5% QA/QC on all water column samples = $3,677
10% QA/QC on all sediment samples = $6,370
= $10,047

37% UMCES Lab Contract Overhead = ($109,157 + $10, 047) * 1.37 **= $163,311**

Summary of Staff Funded: No Department staff will be funded from this project.

Objective #15	***Atmospheric Deposition***	**Budget for this Objective**	*Total: $47,600* *EPA Share: $47,600* *Non-Federal Share: $0*
Narrative Summary of Outputs for this Objective:	This is a modeling project which will estimate the rates of atmospheric deposition of ammonium and nitrate to the Chesapeake Bay Watershed and adjoining tidal waters, from 1983 to 2013.		
Description of Objective:	Atmospheric nitrogen deposition (AND) is one of the sources of nitrogen in the Chesapeake Bay Watershed. This will be a supplementary project to an existing project (Project 1) which aims to provide a regional-scale, systematic account of the sources and sinks of nutrients that impact watersheds and water quality. This modeling effort will help quantify and understand the impacts of AND to the Bay. Inputs to the modeling effort will include: 1. Weekly and daily precipitation chemistry observations from NADP/NTN and AirMON network monitoring stations. 2. Hourly surface weather parameter outputs from the NLDAS-2 model, including total and convective precipitation, 2m temperatures, and surface pressure. Additionally, downward short wave radiation will be evaluated for use in NOx conversion and release rates of ammonia emissions from surface sources (i.e., fertilized fields). 3. Upper air data will be obtained from the North American Regional Reanalysis model (NARR). 4. Land cover and land use data will primarily be from the National Land Cover Database (NLCD). NLCD classifications will be reclassified into cropland, potential livestock production areas, residential areas, industrial and commercial sites, and transportation corridors. 5. County- and point-level estimates of ammonia and NOx emission from the EPA National Emissions Inventory (NEI). Daily estimates of ammonium and nitrate wet deposition will subsequently be accumulated into annual totals and verified against annual deposition records from NADP/NTN and AirMon sites.		
Tasks Under this Objective:	Model atmospheric nitrogen deposition utilizing existing monitoring data and some existing modeled surface weather data outputs to estimate annual and daily ammonium and nitrate wet deposition fluxes.		
Specific Outputs for this Objective	• A final report detailing the model development will be prepared and submitted to the Chesapeake Bay Program Office. (October 2016) • Publication of the model development and application will be pursued, acknowledging EPA for funding and credit for technical and data contributions to the modeling project. (Target: publication by October 2017)		
Outcomes for this Objective:	An understanding of atmospheric nitrogen deposition's effects on the nitrogen loading of the Chesapeake Bay watershed.		
Link to EPA's Strategic Plan	EPA Strategic Plan Goal **Goal 2: Protecting America's Waters**		

	EPA Strategic Plan Objective **2.2: Protect and Restore Watersheds and Aquatic Ecosystems**
Link to Jurisdiction's WIP Commitment(s)	Phase I WIP: • Section 11: Forestry • Section 13: Multiple-Sector Strategies
Link to Priority Practices and/or Priority Watersheds	No specified priority watershed.
Progress for this Objective	This section will be left blank in the work plan but will be completed for the progress reports.

Budget Detail: Costs include the proportional salary of two Penn State employees who will be developing the model and administrative fees.

Summary of Staff Funded: No Department staff will be funded from this project.

<table>
<tr><td>Objective #16</td><td>MS4/Stormwater Program Solutions</td><td>Budget for this Objective:</td><td>1. Total: $150,000
2. EPA Share: $150,000
3. Non-Federal Share: $0</td></tr>
<tr><td>Narrative Summary of Outputs for this Objective:</td><td colspan="3">Assist the Department in the enhancement of Pennsylvania's MS4/Stormwater Management Program through training of Department staff and training, technical and financial assistance to the regulated community. This includes the:
1. Continued delivery of workshops to Department staff and the regulated community on the required elements of a MS4 program, Chesapeake Bay Pollutant Reduction Plans (CBPRP) and Total Maximum Daily Load (TMDL) Plans.
2. One-on-one municipality specific technical assistance through a Circuit Rider Program.
3. Selection of an outside contractor to help Department staff with the review and development of content for the MS4 workshops, revisions to the Chesapeake Bay Model Plan, the development of staff training for the review of TMDL plans, CBPRP and Appendix Reports and assist with permit development.
4. Financial assistance to counties, cities, boroughs, townships, incorporated towns, and municipal authorities to:
a. Develop stormwater fee systems and where necessary form a stormwater authority
b. Develop TMDL plans or CBPRP
N.B. Additional funds, <u>beyond</u> the $150,000 provided by EPA Region 3 will be necessary to address this objective and these outputs. (Additional funds will be required; these funds have been the subject of discussions between Deputy Secretary Heffner and Director Capacasa.)</td></tr>
<tr><td>Description of Objective:</td><td colspan="3">There are four components to this project as listed above designed to improve the capability of Department staff and the regulated community to implement the requirements of the MS4/Stormwater Program. Components 1, 3 and 4(b) will require the hiring of one or more outside contractors to assist the Department in the delivery of training or technical assistance. Component 2 involves the hiring of two or more people on a part time basis to provide this assistance. Component 4a involves direct grants to entities. Additional subsidy will be provided to cover a percentage of costs incurred should the grantee be successful in forming the authority and creating the framework for charging fees. Component 4b involves the selection of a contractor to help communities with the development of the TMDL plans or CBPRP using the model plans developed by the Department.</td></tr>
<tr><td>Tasks Under this Objective:</td><td colspan="3"><u>Component 1:</u>
1. Develop specifications and award contract for logistical support for workshops.
2. Deliver workshops within the Chesapeake Bay Watershed by Summer 2016.
<u>Component 2:</u>
1. Hire Outreach Instructors/Circuit Riders.
2. Finalize materials and tools needed for the circuit riders to use when providing assistance.
3. Provide assistance to municipalities participating in the program.</td></tr>
</table>

	Component 3: 1. Develop specifications and award contract. 2. Begin work as described. Component 4a: 1. Develop criteria for program including eligibility criteria, limitations on funding, total amount of funding allowed per applicant and application package. Initial thoughts are up to $25,000 for planning and feasibility analysis with up to an additional $50,000 for reimbursement of additional costs incurred once the authority is formed. There would be a match requirement. 2. Advertise availability of funds and award contracts. 3. Process requests for reimbursement as appropriate. Component 4b: 1. Develop specifications for invitation to bid and award contract for a contractor to assist MS4 communities with the development of these plans. 2. Develop criteria for the selection and prioritization of communities requesting assistance under the program. 3. Deliver assistance to communities. 4. Process requests for reimbursement as appropriate.
Specific Outputs for this Objective	Component 1: 1. Agenda and materials for workshops by June 30, 2016. 2. 4 to 6 workshops held in the Chesapeake Bay Watershed by June 30, 2016. Component 2 - This component will be completed one year after funding is made available and the go ahead to start has been given: 1. Five to ten communities will be provided assistance. A list of the communities with a description of the assistance provided will be given to EPA. Component 3 – This component will be completed 3 months after the given go ahead. Number 1, below, is under development now: 1. Specifications for Invitation to Bid or Request for Proposals. 2. Materials developed by the contractor for staff or regulated community training. Component 4(a) – The completion schedule for this component will be determined once funding has been assured, and once the amount of total funding has been determined: 1. Program application package. 2. List of applicants and amount provided. Component 4(b) – The completion schedule for this component will be determined once funding has been assured, and once the amount of total funding has been determined: 1. Specifications for Invitation to Bid or Request for Proposals for Contractor to provide assistance.

	2. Ranking criteria for participation in the program. 3. List of applicants participating in the program. 4. Copy of model plans developed.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 4: Healthy Communities and Ecosystems EPA Strategic Plan Objective 4.3: Ecosystems EPA Strategic Plan Sub-objective 4.3.4: Improve Aquatic Health of the Chesapeake Bay
Link to Jurisdiction's WIP Commitment(s)	WIP I: Section 9. Urban/Suburban Stormwater WIP II: Section 5. Stormwater
Link to Priority Practices and/or Priority Watersheds	No specified priority watershed.
Progress for this Objective	***This section will be left blank in the work plan but will be completed for the progress reports.***

Objective #17	***Susquehanna Nutrient Assessment***	**Budget for this Objective**	*Total: $125,000* *EPA Share: $125,000* *Non-Federal Share: $0*
Narrative Summary of Outputs for this Objective:	The Susquehanna Nutrient assessment will analyze base flow, monthly, random, and storm samples at 20 sites in Pennsylvania. Output from this project will be used to improve nutrient and suspended-sediment load and trend estimations, as well as improve calibration and verification of the watershed models. The objectives include: 1. This project will provide a trend update for the periods 1984–2013 and 1984-2014 for SRBC's six long-term non-tidal monitoring sites in Pennsylvania. The trend analyses for water quality will include, at a minimum, where available, the following parameters: total and dissolved nitrogen and phosphorus; total and dissolved inorganic nitrogen; dissolved inorganic phosphorus; total and dissolved ammonia; total and dissolved nitrate plus nitrite; total and dissolved organic nitrogen; and total suspended sediment or suspended sediment. 2. Conduct monthly and stormwater quality monitoring at 20 sites, these sites are shown in the table after this objective. Provide summary statistics for the 20 enhanced sites in the Susquehanna River Basin including maximum, minimum, median, mean, and standard deviation values. No funds will be requested in future CBRAP applications for this objective.		
Description of Objective:	Monitor nutrient and suspended sediment water quality at various sites within the Susquehanna River Basin in support of Chesapeake Bay activities. This project will address the CBPO need for statistical analyses of status and trends, possible nonlinear trends, and evaluation of new indicators for water quality through calendar year 2014 for the Chesapeake Bay non-tidal tributaries in Pennsylvania.		
Tasks Under this Objective	<u>Component 1:</u> 1. Collect monthly water quality samples at listed sites. 2. Collect eight high flow water quality samples per year targeting one storm per quarter. 3. Compile 2013 and 2014 data into existing database. <u>Component 2:</u> 1. Collect monthly water quality samples at 20 sites. 2. Collect eight high flow water quality samples per year targeting one storm per quarter. 3. Compile 2013 and 2014 data into existing database. 4. Process compiled datasets using the USGS estimator model version 2000-04 and approved regression techniques to generate all 2013 trend statistics, including flow corrected trends. 5. Review SRBC generated 2013 trend results, compare results to previous years' results and other agency results, as available, to evaluate consistencies and/or discrepancies between stations and parameters. 6. Update trends map with flow and flow-adjusted concentration trends for 2013.		

Specific Outputs for this Objective	Component 1: 1. 2013 data will be added to the existing database and posted to a public website at http://www.srbc.net/programs/cbp/nutrientprogram.htm. Complete by September 2015. 2. 2013 summary statistics for the 26 enhanced sites in the Susquehanna River Basin including maximum, minimum, median, mean, and standard deviation values. Complete by September 2015. Component 2: 1. 2013 SRBC generated trends map and statistical results of trend analysis will be publically available. Complete by September 2015. 2. 2014 SRBC generated trends map and statistical results of trend analysis will be publically available. Complete by September 2015.
Outcomes for this Objective:	Protect and Restore Water Quality Reduce nutrient and sediment loads that cause or contribute to the impairment of water quality standards in Chesapeake Bay and its tidal tributaries through expansion, implementation and/or enforcement of regulatory programs.
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 4: Healthy Communities and Ecosystems EPA Strategic Plan Objective 4.3: Ecosystems EPA Strategic Plan Sub-objective 4.3.4: Improve Aquatic Health of the Chesapeake Bay
Link to Jurisdiction's WIP Commitment(s)	WIP I and WIP II: This project will evaluate the success of the efforts made to reduce the nutrient and sediment loading to the Chesapeake Bay.
Link to Priority Practices and/or Priority Watersheds	Evaluates the Susquehanna River watershed nutrient and suspended sediments.
Progress for this Objective	***This section will be left blank in the work plan but will be completed for the progress reports.***

Table 1: SRBC Sampling Sites for Objective 17

Site Type	Site Location	USGS Site ID	Subbasin	Waterbody	Drainage Area (Sq. Mi.)
Long Term	Towanda	01531500	Mid. Susquehanna	Susquehanna	7,797
	Danville	01540500	Mid. Susquehanna	Susquehanna	11,220
	Lewisburg	01553500	W.B. Susquehanna	W.B. Susquehanna	6,847
	Newport	01567000	Juniata	Juniata	3,354
	Marietta	01576000	L. Susquehanna	Susquehanna	25,990
	Conestoga	01576754	L. Susquehanna	Conestoga	470
Enhanced	Wilkes-Barre	01536500	Mid. Susquehanna	Susquehanna	9,960
	Karthaus	01542500	W.B. Susquehanna	W.B. Susquehanna	1,462
	Castanea	01548085	W.B. Susquehanna	Bald Eagle	420
	Jersey Shore	01549760	W.B. Susquehanna	W.B. Susquehanna	5,225
	Saxton	01562000	Juniata	Raystown Branch Juniata	756
	Reedsville	01565000	Juniata	Kishacoquillas	164
	Dalmatia	01555500	L. Susquehanna	East Mahantango	162
	Penbrook	01571000	L. Susquehanna	Paxton	11
	Penns Creek	01555000	L. Susquehanna	Penns	301
	Dromgold	01568000	L. Susquehanna	Shermans	200
	Hogestown	01570000	L. Susquehanna	Conodoguinet	470
	Hershey	01573560	L. Susquehanna	Swatara	483
	Manchester	01574000	L. Susquehanna	West Conewago	510
	Martic Forge	01576787	L. Susquehanna	Pequea	155